Supporting Information

Experimental Section

The uniform hexahedral hematite particles were obtained via aging 2.0×10^{-2} M $FeCl_3$ aqueous solution at 373 K for 2 days. A certain amount of resultant hematite particles were added to a solution of 0.45 M aqueous ammonia and 3.05 M water in 2-propanol under stirring at 313 K for 30 min. Then 4.0×10^{-3} M TEOS was rapidly added and continuously aged at 313 K for 15 h. After being centrifugated and dried, the silica coated hematite particles were well dispersed in a solution composed of 2 g water, 11.7 g ethanol and 0.644 g aqueous ammonia. After that, a mixture of TEOS/C18TMS with molar ratio of 4.7 was added dropwise and aged at ambient temperature for 1 h. The resultant C18MTS-incorporated core-shell particles was separated by centrifugation, and then further calcined at 823 K for 6 h to remove the organic porogen, which yielded the hematite core/mesoporous silica shell (HFeCMS) nanospheres. The reduction was carried out by the thermal treatment of the HFeCMS particles in mixed H_2 and N_2 (1:1) gases at 723 K for 4 h, and the final magnetic core/mesoporous silica shell particles were obtained.

The XRD pattern of prepared powder sample was collected using a Rigaku D/Max-2200PC X-ray diffractometer with Cu target (40KV, 40mA) from 10 to 90o. TEM (Field Emission Transmission Electron Microscopy) analysis was conducted with a JEM 2100F electron microscope operated at 200 KV. FESEM (Field Emission Scanning Electron Microscopy) analysis was conducted with JEOL JSM6700F electron microscope. Nitrogen adsorption and BJH pore size distributions were

obtained at 77.35 K on a Micromeritics Tristar 3000 analyzer. The magnetization curve was measured at room temperature under a varying magnetic field with VSM.

The typical drug storage experiment and in vitro drug release experiment were performed as follows: a certain amount of MFeCMS was added into 40 mg/ml ibuprofen hexane solution. The suspension was stirred for 24h while the evaporation of hexane was prevented. Then the MFeCMS particles with drug loaded were separated and compacted in 0.1g disks by a pressure of 4 MPa. One disk was immersed into 10 ml simulated body fluid (SBF) of pH 7.4 at 310 K under stirring at a rate of 100 r/min. The release medium (1 ml) solution was removed for analysis at given time intervals and replaced with the same volume of fresh preheated SBF. The 1.0 ml extracted medium solution was diluted to 4 ml with SBF and analyzed by UV-vis spectroscopy at a wavelength of 273 nm.

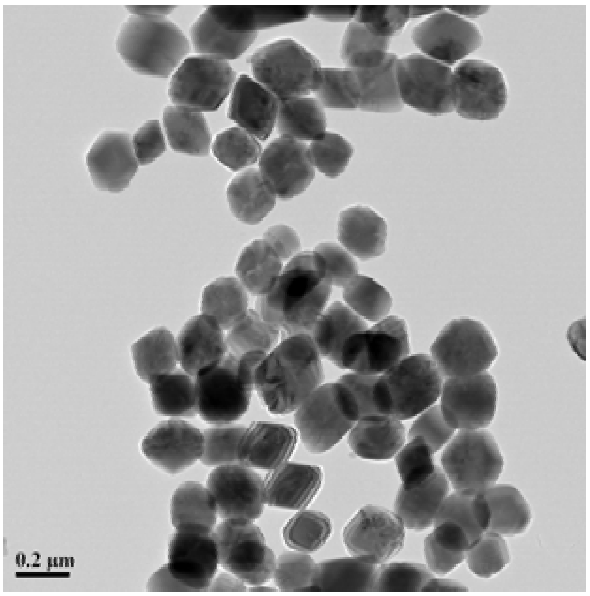

Figure 1. TEM image of hematite particles.

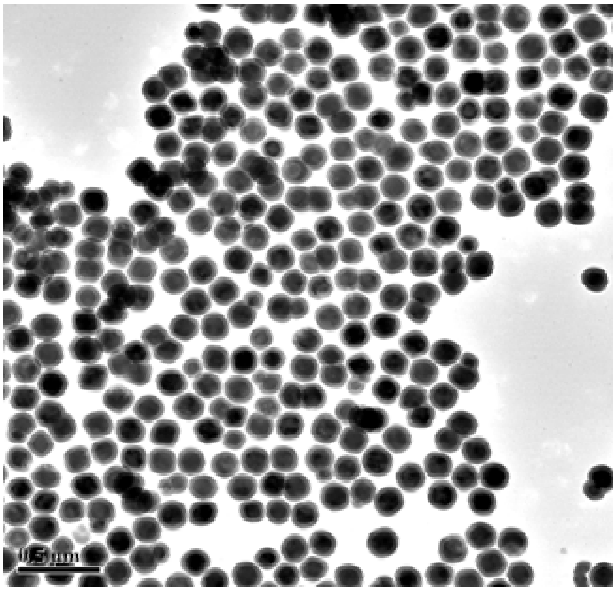

Figure 2. TEM image of dense silica coated hematite particles.

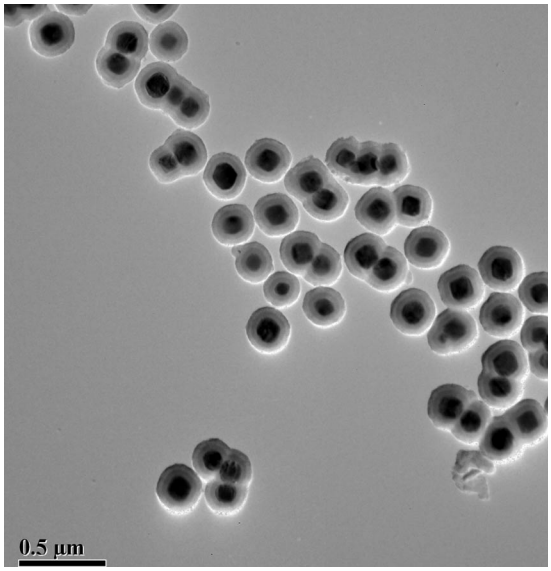

Figure 3. TEM image of HFeCMS nanoparticles.

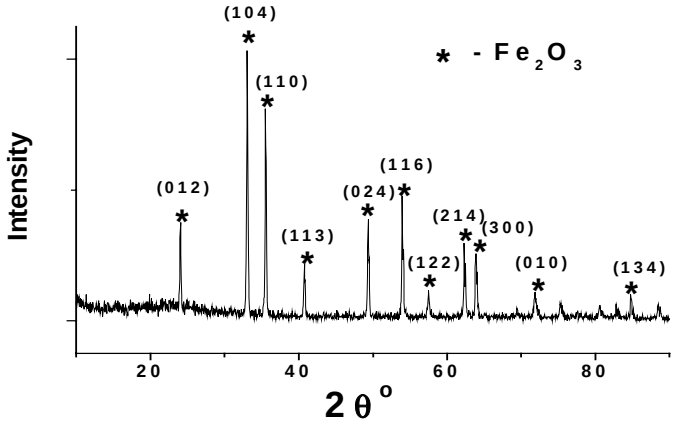

Figure 4. XRD pattern of HFeCMS nanospheres.

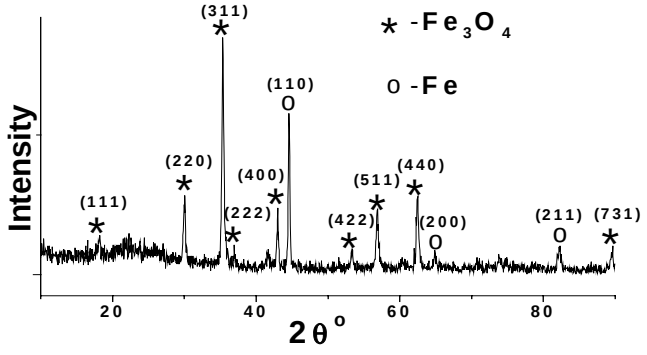

Figure 5. XRD pattern of MFeCMS nanoparticles.